



Attorney Docket # 4797-21

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Dietmar ADLER et al.

Serial No.: 09/842,224

Filed: April 25, 2001

For: Reactor and Method for Fly Stream Gasification

Examiner: Ridley, Basia Anna  
Group Art: 1764

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Alfred W. Froeblich  
Name of applicant, assignee or Registered Representative

Signature

March 30, 2005  
Date of Signature

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Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**APPEAL BRIEF**

SIR:

This is an appeal, pursuant to 37 C.F.R. §41.37 from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action wherein the Examiner finally rejected appellant's claims. The rejected claims are reproduced in the Appendix A attached hereto. A Notice of Appeal was filed on December 2, 2004.

The fee of \$500.00 for filing an Appeal Brief pursuant to 37 C.F.R. §41.20 is submitted herewith. Appellants requests a two-month Extension of Time of the original shortened statutory response period to file this Appeal Brief. A Petition for the two-month extension of time is enclosed herewith along with the fee of \$450. Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

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#### **REAL PARTY IN INTEREST**

The assignee, Noell-KRC Energie- und Umwelttechnik GmbH, of applicants, Dietmar Adler, Jürgen Görz, Dietmar Degenkolb, and Manfred Schingnitz, is the real party of interest in the above-identified U.S. Patent Application.

#### **RELATED APPEALS AND INTERFERENCES**

There are no other appeals and/or interferences related to the above-identified application at the present time.

#### **STATUS OF CLAIMS**

Claims 13-16 have been canceled. Claims 4-6 are currently withdrawn as being drawn to a non-elected embodiment. Claims 1-3, 7-10, and 17-18 have been rejected. Claims 1-3, 7-10, and 17-18 are on appeal.

#### **STATUS OF AMENDMENTS**

An Amendment was filed on September 29, 2004 subsequent to the Final Office Action. The Examiner indicated in the Interview Summary mailed November 17, 2004 that the amendment was entered.

#### **SUMMARY OF THE INVENTION**

Appellants' invention is directed to a gasification reactor vessel with a pressure shell 4 which encircles the reactor (see page 9, lines 8-10 of the specification). Refractory lining layers 6,

7 are arranged on the inner side of the pressure shell 4 for thermal protection of the pressure shell 4 (page 9, lines 10-12). Water conducting ducts 5 arranged outside of the pressure shell 4 operate independent of the pressure and temperature in the reaction space (page 9, lines 12-14). The ducts 5 are made of webs 10 welded to the casing 4 and segments 11 which connect two webs and close off the duct 5 (page 9, lines 20-22).

#### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

1. Whether claims are patentable under 35 U.S.C., 102(a) over DE 35 23 60 (Gudymov) in view of U.S. Patent No. 2,231,295 (Price)?

#### **ARGUMENT**

Independent claim 1 recites "a pressure shell, said pressure shell having an encircling body wall", "a plurality of cooling ducts extending around an outer surface of said body wall, said ducts being fixedly connected to said outer surface, interior spaces of said cooling ducts communicating with said outer surface", and "a lining of a refractory encircling an inner surface of said encircling body wall".

Gudymov is a German language reference which was first cited by the Examiner, without a translation thereof, in an Office Action dated October 24, 2003. The Examiner states that reference characters 1, 3, 5 indicate a pressure wall as recited in independent claim 1. It is noted that a translation of the title indicates that the cooled screen of Gudymov is an internal lining (Innenauskleidung) for the reaction spaces of furnace installations. Since the parts indicated by reference characters 1, 3, and 5 are part of an internal lining, these parts with reference characters 1, 3, and 5 can not be considered to be a pressure shell as alleged by the Examiner.

In the rejection of the claims, the Examiner has combined the teachings of Gudymov, which relates to a reactor furnace, with the teachings of Price, which relates to a power plant boiler system in which the power plant is an internal combustion engine (ICE). As correctly stated in the final Office Action dated June 30, 2004, "In order to rely on a reference as a basis for a rejection of the applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned. *In re Oetiker*, 911 F.2d 1443, 1446, 24 USPQ2d, 1443, 1445 (Fed. Cir. 1992). It is respectfully submitted the Price fails both parts of the test. Accordingly, Price can not be relied upon as a basis for a rejection of the claimed invention.

Independent claim 1 is directed to a gasification reactor vessel. As stated above, Price is directed to a power plant boiler system and discloses that the power plant includes a cylinder 1 for an internal combustion engine (ICE) (see page 2, left column, lines 62-63). Attachment 2 to the amendment filed September 29, 2004 is an excerpt from Encyclopedia Britannica Online which states that the goal of combustion is to produce the maximum amount of heat possible by oxidizing all the combustible material and the goal of gasification is to convert most of the combustible solids into combustible gases such as carbon monoxide, hydrogen, and methane. Furthermore, the process between compression, combustion, and expansion/cooling is discontinuous in the cylinder of the ICE while the gasification process in gasifiers is continuous. Accordingly, the cooling requirements for ICEs and gasifiers is vastly different. Based on these diverging goals and characteristics of ICEs and gasifiers, Price fails the first part of the test for an analogous reference because the ICE disclosed by Price can not be considered to be in the same field of endeavor as a gasification reactor vessel, as claimed in independent claim 1.

Regarding the second part of the test for analogous art, the present invention is concerned with providing cooling to a gasification reactor vessel pressure shell while at the same time preventing condensate from forming on the inside of the pressure casing because the condensate causes corrosion (see page 4, lines 3-7; and page 5, lines 2-5 of the present specification). In contrast, the object of Price is to conserve heat that is normally wasted (see page 1, right column, lines 10-15). Furthermore, Price fails to teach or suggest that condensation in the cylinder 1 of the ICE is a problem. Moreover, the cooling requirements of an ICE are vastly different than those of a gasifier because the ICE process is discontinuous and the gasifier is a continuous combustion process as described above. Price can not be considered reasonably pertinent to the problem with which the present invention is concerned; namely, the prevention of condensation of water in the reaction space of the reactor pressure vessel while simultaneously cooling the reactor pressure vessel of a gasification reactor.

Since Price fails both tests for analogous art, Price can not be considered as a basis for a rejection of the applicant's presently claimed invention. That is, Price is not applicable as prior art for the presently claimed invention.

Furthermore, since Gudymov discloses an internal lining and since Price is directed to an ICE, neither Gudymov nor Price teach or suggest cooling ducts on an outer surface of a pressure shell of a gasifier, as expressly recited in independent claim 1.

For the foregoing reasons, it is respectfully submitted that the combined teachings of fail to establish a *prima facie* case of obviousness with regard to the subject matter recited in independent claim 1.

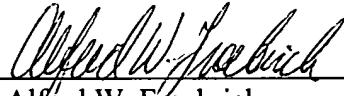
Dependent claims 2-3, 7-10, and 17-18, being dependent on independent claim 1, are deemed allowable for at least the same reasons expressed above with respect to independent claim 1.

The Final Rejection of the claims 1-3, 7-10, and 17-18 should be reversed.

### **CONCLUSION**

For the foregoing reasons, it is respectfully submitted that appellant's appellants' claims are not rendered obvious anticipated by and are, therefore, patentable over the art of record, and the Examiner's rejections should be reversed.

Respectfully submitted,  
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## APPENDIX

1. (original) A gasification reactor vessel, comprising:
  - a pressure shell, said pressure shell having an encircling body wall and shell ends at each of opposite ends of the body wall;
  - a plurality of cooling ducts extending around an outer surface of said body wall, said ducts being fixedly connected to said outer surface, interior spaces of said cooling ducts communicating with said outer surface;
  - a fluid supply conduit communicating with said cooling ducts;
  - a fluid discharge conduit communicating with said cooling ducts; and
  - a lining of a refractory encircling an inner surface of said encircling body wall.
2. (original) A gasification reactor vessel according to claim 1, wherein each cooling duct comprises a pair of spaced webs fixedly connected at common edges of each to said body wall outer surface, and an arcuate segment joining opposite edges of said webs.
3. (original) A gasification reactor vessel according to claim 2, wherein the webs of each duct are fixedly connected to said body wall outer surface with welded connections.
4. (withdrawn - previously presented) A gasification reactor vessel according to claim 2, wherein said ducts extend longitudinally along said body wall, said fluid supply and fluid discharge conduits are annular and located, respectively, at one of two opposite ends of said shell body.
5. (withdrawn - previously presented) A gasification reactor vessel according to claim 4, wherein a circumferential space separates adjacent ones of said ducts on said body wall outer surface.

6. (withdrawn) A gasification reactor vessel according to claim 4, wherein said ducts are arrayed circularly around said body wall outer surface with each duct in abutment with ducts adjacent thereto.

7. (original) A gasification reactor vessel according to claim 2, wherein said ducts extend circularly around said body wall outer surface, said fluid supply and fluid discharge conduits being annular and disposed, respectively, at one of two opposite ends of said shell body.

8. (original) A gasification reactor vessel according to claim 7, wherein said ducts are arranged obliquely of a central axis of said body wall.

9. (original) A gasification reactor vessel according to claim 8, wherein said ducts extend in a spiral course around said body wall outer surface.

10. (original) A gasification reactor vessel according to claim 7, wherein each duct encircles said body outer wall surface spaced from ducts adjacent thereto.

11. (original) A gasification reactor vessel according to claim 1, wherein said refractory lining comprises at least two separate concentric layers of refractory material.

12. (original) A gasification reactor vessel according to claim 11, wherein the refractory material is at least one of a ceramic and polytetrafluoroethylene.

13.-16. (canceled)

17. (previously presented) A gasification reactor vessel according to claim 2, wherein said ducts extend in a direction having at least a longitudinal component along said body wall, said fluid supply and fluid discharge conduits are annular and located, respectively, at one of two opposite ends of said shell body.



18. (previously presented) A gasification reactor vessel according to claim 4, wherein a circumferential space separates adjacent ones of said ducts on said body wall outer surface.